

Memorandum

Public Works Department



Date: March 30, 2009

To: Mayor and City Council

From: Lieutenant Noah Johnson, Traffic Bureau (858-6332)
Nancy Rodriguez, Deputy Court Manager (350-8582)
Shelly Seyler, Traffic Engineer, Transportation (350-8854)

Through: Louraine Arkfeld, Presiding City Judge (350-8614)
Glenn Kephart, Public Works Manager (350-8205)
Tom Ryff, Police Chief (350-8214)

Subject: **Issue Review Session 04/09/2009: Photo Enforcement Update**

At the Issue Review Session on April 9, 2009, staff will be providing information on the photo enforcement program and will be discussing additional measures being taken to improve its visibility with motorists. The purpose of the photo enforcement system is to reduce vehicular speeds and motor vehicle crashes on our arterial streets. Information on factors used in establishing speed limits as well as specific information that relates to the posted speed limit on Priest Dr. and Rural Rd., where speed photo enforcement has been established, is provided in Attachment A. Additional information on photo enforcement program is provided in Attachment B. A breakdown of the photo enforcement fines is provided in Attachment C.

Establishing Speed Limits

Speed limits within the City of Tempe are currently established through engineering studies and adopted into City Code by Council action. This does not include local residential streets which are posted at 25mph and fall under State Statutes. Typically, an engineering study would review several factors included below:

- Prevailing vehicle speeds – this is typically based on the 85th speed, at which 85 percent of free-flowing vehicles are traveling at or below. Use of the 85th percentile speed is based on the theory that the large majority of drivers are reasonable and prudent. The 85th percentile method is the most widely recognized method of establishing speed limits. However, in our urban environment use of this method alone may result in speeds that are unsafe for adjacent land use including bicycle and pedestrian activities.
- Physical features of roadway – these features include horizontal and vertical alignment, sight and stopping distance limitations, roadway and lane widths, and raised medians.
- Traffic control characteristics – this can include crosswalks, traffic signals, and stop signs or other forms of traffic control.
- Crash experience – which considers severity, causation, and type.
- Roadside development and culture as well as roadside friction – Roadside friction includes things like driveways, bus stops, parking, etc.
- Pedestrian and bicycle activity.
- Traffic calming features – this can include items such as speed humps and traffic circles.
- Signal timing progression. (The speed that would be most efficient for the existing signal timing.)

After conducting a study using the above criteria, an appropriate speed is recommended to the City Council who revises the Tempe City Code Chapter 19.

Priest Dr. Speed Limit

A review of past studies showed that a request to study the portion of Priest Dr. between Rio Salado Pkwy and University Dr. was made in 1980. The study performed at that time included a review of the roadway geometrics, adjacent land use and prevailing speeds. Based on the study, a speed of 40 mph was recommended between Rio Salado Pkwy and University Dr. The proposed change went before the City Council in August 1980 and was adopted into the city code at that time.

In 2004, the City Council requested that staff review speed limits in Tempe to establish consistent speed limits with neighboring cities and along corridors. At an IRS session held on March 24, 2005, staff presented three major speed limit alternatives. Mayor and Council approved 11 speed limit changes which are also summarized in Table 1 below.

In 2007, changes were again proposed to Priest Dr. between Washington St. and Rio Salado Pkwy. These changes were in conjunction with area changes made as a result of the implementation of light rail. Consistent with the goal of establishing speed limits which do not vary along corridors, Priest Dr. between Washington and Alameda Dr. is 40 mph.

Transportation staff will be conducting a study to review and validate the existing posted speed on the northern section of Priest Dr. Once that study has been completed, results will be provided to the City Council.

Rural Rd Speed Limit

Also reviewed in 2004 was the Rural Rd. corridor. In addition to the speed limit factors as noted above, two important factors were taken into consideration when the 35 mph zone was established in 2005. The first was the limitation in the posted speed limit that resulted from the design speed of 35 mph used on Rural Rd/Scottsdale Rd at the Playa del Norte development. In order to limit the amount of widening that was required on the bridge a design speed of 35 mph was chosen. This resulted in the posted speed being limited to 35 mph.

The second factor was a policy that established 35 mph zones adjacent to the ASU campus. The city currently has 35 mph zones surrounding the campus including the posted speed that existed between Alameda Dr. and University Dr. at the time the review was done.

Because of these two factors and the request by Council to create consistent speed limits, a recommendation was made to establish a 35 mph zone from Alameda Dr. to the SR202 rather than have one segment between University Dr. and just north of Rio Salado Pkwy that would have been posted at 40 mph. Drivers traveling north or south along the corridor maintain a consistent speed for the entire segment rather than the speed limit changing 3 times over the 2.5 mile corridor.

Table 1 – 2005 Adopted Speed Limit Changes

| STREET | ORDINANCE SPEED LIMIT | SPEED LIMIT ADOPTED MAY 2005 | REASON |
|--|----------------------------------|---|---|
| Country Club Way from Alameda Drive to Southern Avenue | 30 | 25 | Speed humps installed on segment |
| Thirteenth Street from Priest Drive to Mill Avenue | 30 | 25 | Traffic calming street project which lowered the speed |
| Eighth Street from Rural Road to McClintock Drive | 35 | 30 | Request to lower due to development and use by bicyclists/pedestrians |
| Rural (Scottsdale Road) from Loop 202 to University Drive | 40 | 35 | Extend 35mph zone adjacent to ASU campus and required design speed due to design limitations north of the river |
| Rio Salado Parkway from College Avenue to Rural Road | 40 | 35 | Extend 35mph around ASU campus to Rural Road |
| 48 th Street from University Drive to 14 th Street | 40 | 35 | Match speed limit north of University Drive |

| STREET | ORDINANCE SPEED LIMIT | SPEED LIMIT ADOPTED MAY 2005 | REASON |
|--|--------------------------|------------------------------------|---|
| University Drive from Rural Road to East city limits | 45 | 40 | Match speed with Mesa border and allow for more consistent speed along University Drive adjacent to ASU campus |
| Priest Drive from University Drive to Broadway Road | 45 | 40 | Match speed limit north of University Drive and south of Broadway Road |
| Southern Ave from 350 feet east of Dorsey Lane to East city limits | 45 | 40 | Match speed with Mesa border and allow for more consistent speed along Southern Avenue between Kyrene Road and east city limits |
| McClintock Drive from Southern Avenue to Baseline Road | 45 | 40 | Extend 40 mph zone south of school zone (McClintock High School) and across vertical alignment over US60 |
| Elliot Road from West city limits to Priest Drive | 45 | 40 | Match speed with Phoenix border and across vertical alignment over I-10 |
| Kyrene Road from Elliot Road to 0.5 miles south of Elliot Road | Posted as 45 | 45 | Segment Addition |

Memorandum



Police Department

Date: March 11, 2009
To: Angel Carbajal, ACOP, Patrol Division
From: Noah Johnson, Lieutenant, Traffic Bureau
Cc: Bob Gage, Commander, Patrol Division
Subject: Fixed Mid-Block Photo Enforcement Sites

Sir,

The City of Tempe has three fixed photo enforcement sites that only conduct speed enforcement. These locations are placed in the mid block locations of 600 S. Priest Drive, 200 S. Rural Road, and 500 S. Rural Road. These locations were put in place in the fall of 2007 and activated to issue citations December 2007. Since December 2007 fourteen other fixed sites have been erected at intersections that regulate speed and red light violations.

These mid block locations were picked by City of Tempe personnel from the police department traffic bureau and traffic engineering. All of the fixed site locations were chosen based on accident information, noted speed problem areas from data received from our previous photo enforcement vendor and our institutional knowledge. These specific mid-block sites were chosen based on the information from the previous vendors as problem speed areas and the close proximity to the downtown/ ASU area.

The purpose of installing a photo enforcement system in our city was to reduce vehicular speeds on our arterial streets and reduce motor vehicle crashes. I had our crime analysis unit compile data comparing motor vehicle crashes from 2007 to 2008 in these specific areas. Attached to this document in exhibit A you will see the crash data breakdown for each site. From this data we have enjoyed an accident reduction at two of the three sites (600 S. Priest Drive and 500 S. Rural Road) however one area (200 S. Rural Road) has remained neutral. Overall, the City of Tempe has seen a 16% reduction of motor vehicle crashes throughout the entire city since we have installed the system.

The city has fourteen other fixed locations which are all located at intersections and two speed enforcement mobile vans. In exhibit B you will see a table that describes all of the locations where photo enforcement is in place. Exhibit C outlines the number of citations each photo enforcement system provided for prosecution since the program began issuing citations December '07 through January '09.

Respectfully,

Noah Johnson
Lieutenant
Traffic Bureau

Exhibit A - Crash Data

600 S Priest Dr Camera

| RD | CY 2007 | CY 2008 | % Change |
|--------------|--------------------|--------------------|---------------------|
| 0503 | 53 | 53 | 0% |
| 0606 | 10 | 7 | -30% |
| Total | 63 | 60 | -5% |

200 S Rural Rd Camera

| RD | CY 2007 | CY 2008 | % Change |
|--------------|--------------------|--------------------|---------------------|
| 0417 | 20 | 17 | -15% |
| 0420 | 63 | 74 | 17% |
| 0706 | 50 | 42 | -16% |
| Total | 133 | 133 | 0% |

500 S Rural Rd Camera

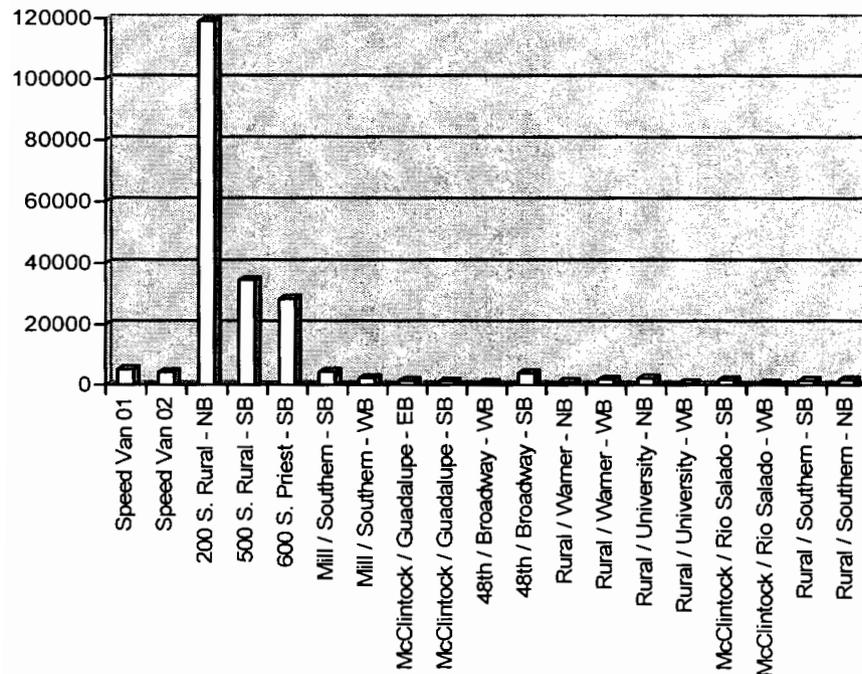
| RD | CY 2007 | CY 2008 | % Change |
|--------------|--------------------|--------------------|---------------------|
| 0417 | 20 | 17 | -15% |
| 0706 | 50 | 42 | -16% |
| 0710 | 24 | 19 | -21% |
| Total | 94 | 78 | -17% |

Exhibit B – Photo Enforcement Locations

| Name | Intersection Name | Direction | Go Live Date | Status |
|-------------|----------------------------------|-----------|--------------|---------|
| TMP-SPVN-01 | Speed Van | | 9/18/2007 | Enabled |
| TMP-SPVN-02 | Speed Van | | 9/18/2007 | Enabled |
| TEM-200R-01 | 200 S Rural Rd | NB | 10/29/2007 | Enabled |
| TEM-500R-01 | 500 S Rural Rd | SB | 10/29/2007 | Enabled |
| TEM-600P-01 | 600 S Priest Rd | SB | 11/1/2007 | Enabled |
| TEM-MISO-01 | Mill Ave and Southern Ave | SB | 11/28/2007 | Enabled |
| TEM-SOMI-01 | Mill Ave and Southern Ave | WB | 11/28/2007 | Enabled |
| TEM-GUMC-01 | McClintock Dr at Guadalupe Rd | EB | 12/28/2007 | Enabled |
| TEM-MCGU-01 | McClintock Dr at Guadalupe Rd | SB | 12/28/2007 | Enabled |
| TEM-BR48-01 | 48TH St and Broadway Rd | WB | 12/31/2007 | Enabled |
| TEM-48BR-01 | 48TH St and Broadway Rd | SB | 2/29/2008 | Enabled |
| TEM-RUWA-01 | Rural Rd at Warner Rd | NB | 3/19/2008 | Enabled |
| TEM-WARU-01 | Rural Rd at Warner Rd | WB | 3/19/2008 | Enabled |
| TEM-RUUN-01 | Rural Rd at University Dr | NB | 4/2/2008 | Enabled |
| TEM-UNRU-01 | Rural Rd at University Dr | WB | 4/2/2008 | Enabled |
| TEM-MCRS-01 | McClintock Dr at Rio Salado Pkwy | SB | 4/4/2008 | Enabled |
| TEM-RSMC-01 | McClintock Dr at Rio Salado Pkwy | WB | 4/4/2008 | Enabled |
| TEM-RUSO-01 | Rural Rd at Southern Ave | SB | 11/06/08 | Enabled |
| TEM-SORU-03 | Rural Rd at Southern Ave | NB | 11/06/08 | Enabled |

Exhibit C- Violations

**Violations
December 2007 - January 2009**



| Location | Violations |
|------------------------------|------------|
| Speed Van 01 | 5087 |
| Speed Van 02 | 4114 |
| 200 S. Rural - NB | 119073 |
| 500 S. Rural - SB | 34534 |
| 600 S. Priest - SB | 28265 |
| Mill / Southern - SB | 4267 |
| Mill / Southern - WB | 2236 |
| McClintock / Guadalupe - EB | 1308 |
| McClintock / Guadalupe - SB | 1107 |
| 48th / Broadway - WB | 703 |
| 48th / Broadway - SB | 3833 |
| Rural / Warner - NB | 975 |
| Rural / Warner - WB | 1749 |
| Rural / University - NB | 2103 |
| Rural / University - WB | 608 |
| McClintock / Rio Salado - SB | 1579 |
| McClintock / Rio Salado - WB | 592 |
| Rural / Southern - SB | 1388 |
| Rural / Southern - NB | 1564 |

| Fine Breakdown | | Defensive Driving School Fee Breakdown | |
|-------------------|--------------------|--|--------------------|
| Total Fine Amount | | Total Fee Amount | |
| \$171.00 | Fixed Installation | \$88.00 | Fixed Installation |
| \$171.00 | Mobile Speed Van | \$88.00 | Mobile Speed Van |
| \$26.57 | | \$15.50 | |
| \$10.00 | | \$10.00 | |
| \$37.50 | | \$37.50 | |
| \$10.00 | | \$10.00 | |
| \$10.00 | | \$10.00 | |
| \$38.57 (47%) | | \$9.40 (47%) | |
| \$10.67 (13%) | | \$2.80 (13%) | |
| \$8.21 (10%) | | \$2.00 (10%) | |
| \$5.74 (7%) | | \$1.40 (7%) | |
| \$5.74 (7%) | | \$1.40 (7%) | |
| \$20.00 | | | |
| \$20.00 | | | |

DDS Court Diversion Fee (City of Tempe General Fund)

Public Safety Enhancement Fund (Local Ordinance 26-60) to City of Tempe's General Fund for enhancing general operations of the Police Department, including technology, operations, facilities, and salaries (City of Tempe General Fund)

Redflex Portion of Base Fine, per Contract Court Enhancement Fund (Local Ordinance 2-30) to Tempe Municipal Court budget for exclusive purpose of enhancing the Court's technology, operations and facilities

Criminal Justice Enhancement Fund (A.R.S. 12-116.01A) The state treasurer administers this fund and distributes the monies to provide support to the Arizona automated fingerprint identification system, juvenile corrections for the treatment and rehabilitation of youth, peace officers training, prosecuting attorney's training

Medical Services Enhancement Fund (A.R.S. 12-116.02) The state treasurer administers this fund and distributes the monies to the substance abuse services fund, emergency medical services operating fund, spinal and head injuries trust fund

Clean Elections Fund (A.R.S. 16-954C) Fund administered pursuant to A.R.S. 16-954C

Fill the Gap Fund (A.R.S. 12-116.01B) Monies distributed to the state aid to county attorneys fund, state aid to indigent defense fund, state aid to the courts fund, the department of law for the processing of criminal cases, the Arizona criminal justice commission, the supreme court for allocation to municipal courts

DNA Testing (A.R.S. 116.01C) Monies distributed to state treasurer for use in DNA testing protocol established pursuant to A.R.S. 41-2419

Probation Fee (A.R.S. 12-114.01) Funds placed in the judicial collection enhancement fund, used for adult and juvenile probation/surveillance officer salaries and to support programs and services of the superior court adult and juvenile probation departments

*This contract and program are administered by the Tempe Police Department
 The photo enforcement vendor, Redflex, receives compensation based on all paid complaints where the defendant either pays the fine in full or elects to participate in a defensive driving program, if *This contract states that because Redflex owns and maintains the speed vans, they are paid \$37.50 for each paid citation that stems from a speed van and \$35.50 for each paid citation that stems from a fixed installation